

### Remarks

The present invention pertains to injection molded elastic doll's clothing. Specifically, the clothing is formed from an injection molded thermal plastic elastimer. Because of the elastic properties of the material, it can be easily fitted to a doll with articulated limbs, and removed as appropriate. This can be done easily without damage to the doll or the garment. Due to the thermal plastic properties of the material, the garments may be produced very quickly through injection molding. Prior art doll's clothing was generally woven or knit although may have had some elastic properties to allow it to be fitted to a doll. However, injection moldable thermoplastic materials were not used.

There is one cited piece of prior art which arguable shows doll's clothing made from a injection molded material. That prior art is Yasuda, but shows clothing which is stitched together. This defeats the purpose of injection molding garments to allow fast production of large quantities of garments inexpensively.

The specification has been objected to because the phrase "pat 6,227,930" should be added to page 1, line 2. Such a correction has been made to the specification this objection has thereby been obviated.

The specification has been objected to as failing to provide proper antecedent basis for the claimed subject matter. Specifically, this relates to lack of antecedent basis for the phrase, "the stress which results in a 100% strain of the material" in lines 1 and 2 of Claim 31. The objectionable phrase has been removed from Claims 31 and 32 and Applicants believe that this objection has been met. Specifically, the phrase, "the stress which results in a 100% strain of the material" was added to simplify reading of the claims since that is the definition of the 100% modulus of elasticity which was in the claim. Regardless, Applicants believe that this rejection has been obviated.

The drawings have been objected to under 37 C.F.R. § 1.183(a) as failing to show the ribbon and bow in Claims 23 and 29 and the rock flames bones, etc. in Claims 24 as well as the other items claimed in Claims 29 and 25. The objectionable language has been removed from those claims set forth above, and Applicants believe that this rejection has thereby been obviated. And respectfully request that it be withdrawn.

Claims 19 - 37 have been objected to because of the informality of dependencies. The assumptions set forth in the action are correct, and all claims have been amended to recite the proper dependencies. Accordingly, Applicants believe that this objection has been obviated and respectfully request that it be withdrawn.

Claims 18 - 37 have been rejected under 35 U.S.C. §112, first paragraph as containing subject matter which was not described in the Specification. Specifically, this

rejection relates to objectionable language claiming a garment imitating a suit, shorts, shoes, ribbon, bow, lapel, etc. These objectionable terms have been removed from the claims, and accordingly we believe that this objection has been obviated and respectfully request that it be withdrawn.

Claims 30 - 31 have been rejected under 35 U.S.C. §112, first paragraph as containing subject matter which was not described in the Specification in such ways to enable one skilled in the art to which it pertains to make and or use the invention. This rejection is respectfully traversed. The stress which results in a 100% strain of the material is the definition of 100% modulus elasticity and therefore the two phrases should be freely substituted for one another as was done by Applicants in this case for clarity. Nevertheless, Applicants have removed the objectionable phrases, and Applicants believe that these rejections have thereby been obviated and respectfully request that they be withdrawn.

Claim 19 has been objected to as “unclear because of the improper use of the Markush group.” Claim 19 has been canceled.

Claim 24 has been objected to as being unclear regarding, “how the doll’s garment simulates a rock, flames, bones, second skins, animals, and creatures.” Claim 24 has been canceled.

Claims 30 - 31 have been objected to due to the phrases, “the stress which results in a 100% strain of the material is between 240 and 280Kn/m<sup>2</sup>.” The objectionable material has been removed from these claims for clarity.

Claims 18 - 20, 23 - 25, and 29 have been rejected under 35 U.S.C. §102(e) as being anticipated by Yasuda. Yasuda shows an injection moldable material molded into a sheet form. Claims 18 and 19 have been cancelled and Claim 20 has been amended to depend from Claim 21. Accordingly this rejection is no longer applicable.

Claims 21 - 22, 26 - 28, and 30 - 32 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Yasuda. Yasuda fails to disclose the wall thickness, modulus of elasticity, finish, and height of the garments. The rejection states that, “it would have been obvious to provide the garment of Yasuda in the claimed thickness for the purpose of making the devices easier to play with.”

Applicants respectfully disagree with this conclusion. Yasuda shows a laminate which changes shape with changes in temperature. This shape change is achieved in the same way in which other laminates (such as bimetals) achieve a change in shape with a change in temperature. That is, the layers of the laminate have different coefficients of thermal expansion. Thus one layer expands more than the other with a temperature increase. That layer forces the laminate to curve away, with the layer having the lower

coefficient of thermal expansion on the inside (concave) surface. Every example of Yasuda shows a laminate which has a thickness vastly different from that of the present invention (about one order of magnitude). The specific dimensions are shown below, for those examples for which applicants found definite values. The clothing of the present has a minimum thickness of 1000 $\mu$ m, and up to 3000 $\mu$ m.

Example	Overall thickness ( $\mu$ m, or mm <sup>-3</sup> )
1	100
2	115
3	150
4	70
6	65
7	85
8	85
9	125
10	150
11	100
12	92
13	92
14	75
15	75
16	92
17	100
18	100
19	120
23	100
24	100

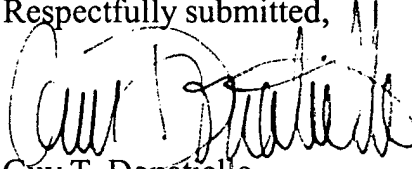
The material is considerably thinner than the material of the present invention. There is no motivation to make the material in the dimensions specified in the claims of the present application. This is especially true when Yasuda is read as a whole. The entire purpose of the Yasuda laminate is to change shape with a change in temperature. There is no indication that this can be accomplished with thicker materials. There is no recognition of the problem addressed by the present invention in Yasuda. Yasuda fails to recognize the problem of clothing a doll in close-fitting clothing, requiring either a seam, or requiring the clothing to have substantial stretch. This is further emphasized by Yasuda's references to woven backings (See examples 12-16 where cotton cloth is used, precluding elasticity of the laminate) and polyethylene and metallized films (examples 17, 18, 20, 21, 23, 24 also precluding elasticity of the laminate).

Furthermore, Yasuda's material is formed in a laminate sheet. Thus clothing from the sheet would have to be stitched or otherwise bonded together. This is contrary to the advantage of the instant invention in increasing the speed of manufacture of the garments. This is emphasized through the claim limitation that the garment of the present invention be seamless.

Finally, the advantage of elasticity of the garments present invention is particularly emphasized in the claims relating to the modulus of elasticity of the garment as a whole, which is not presented by Yasuda. Yasuda may be comprised of thermoplastic elastomer, but there is no indication that all of the materials of the laminate of Yasuda have the elasticity necessary to address the problems addressed by the present invention, no recognition of those problems, and no motivation to make the changes necessary to render the present invention obvious.

Accordingly, Applicants respectfully submit that the present claims are not rendered obvious by Yasuda and allowance of those claims is earnestly solicited.

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## In the Claims

### Version with Markings to Show Changes to the Claims

18 Cancelled

19. Cancelled

20. The doll's garment of claim 21 wherein said thermoplastic elastomer is selected from the group consisting of ethylene vinyl acetate copolymer, styrene-butadiene-styrene, styrene-isoprene-styrene, styrene-diene, styrene-isoprene-butylene block copolymers, styrene-isoprene-butylene block copolymers containing mineral oil, branched styrene copolymer, styrene butadiene, styrene-butadiene triblock, styrene-isoprene-styrene linear block polymer, styrene-butadiene radial block copolymer, and butadiene-styrene copolymer.

21. ~~The A seamless doll's garment of claim 1~~ formed from an injection moldable thermoplastic elastomer wherein said garment has a wall thickness from 1 to 3 mm.

22. ~~The A seamless doll's garment of claim 1~~ formed from an injection moldable thermoplastic elastomer wherein said ~~thermoplastic elastomer~~garment has an average modulus of elasticity of less than  $1\text{MN/m}^2$ .

23. The doll's garment of claim 21 wherein said garment includes an integrally molded detail selected from the group consisting of a belt, a button, a ribbon, a bow, a cuff, a pocket, a lapel, and a collar.

24. Cancelled.

25. The doll's garment of claim 1 wherein said garment simulates clothing selected from the group consisting of a dress, ~~trousers,~~ a pair of dungarees, a jacket, a skirt, a vest, a ~~shirt~~pair of slacks, a hat, a coat, ~~a suit, shorts, a cloak, a cape, a uniform,~~ shoes, and a helmet~~gown, armor, and a scarf.~~

26. The doll's garment of claim 21 further including a finish selected from the group consisting of paint, varnish, and glitter.

27. The garment of claim 9-26 wherein the injected molded thermoplastic elastomer is colorless.

28. The garment of claim 21 wherein said garment is less than 8 cm in height.

29. The garment of claim 3-20 wherein said garment includes an integrally molded detail ~~selected from the group consisting of a belt, a button, a ribbon, a bow, a cuff, a pocket, a lapel, and a collar,~~ and said garment simulates clothing ~~selected from the group consisting of a dress, trousers, a jacket, a skirt, a vest, a shirt, a hat, a coat, a suit, shorts, a cloak, a cape, a uniform, shoes, a helmet, armor, and a scarf.~~

30. The doll's garment of claim ~~12-~~21 wherein said ~~garment~~thermoplastic elastomer has an average modulus of elasticity of less than  $1\text{MN/m}^2$ .

31. The doll's garment of claim 21 wherein the 100% modulus of elasticity ~~stress which results in a 100% strain of the material~~ is between 240 and 280  $\text{KN/m}^2$ .

32. The doll's garment of claim 21 wherein the 300% modulus of elasticity ~~stress which results in a 300% strain of the material~~ is between 440 and 490  $\text{KN/m}^2$ .

33. A play set comprising a doll and

a doll's garment according to claim 21 ~~formed from an injection molded thermoplastic elastomer.~~

34. The play set of claim ~~16~~ 33 wherein said doll is articulated at a joint selected from the group consisting of the shoulders, elbows, knees, neck, and hips.

35. The play set of claim ~~17~~ 34 wherein said thermoplastic elastomer is selected from the group consisting of ethylene vinyl acetate copolymer, styrene-butadiene-styrene, styrene-isoprene-styrene, styrene-diene, styrene-isoprene-butylene block copolymers, styrene-isoprene-butylene block copolymers containing mineral oil, branched styrene copolymer, styrene butadiene, styrene-butadiene triblock, styrene-isoprene-styrene linear block polymer, styrene-butadiene radial block copolymer, and butadiene-styrene copolymer.

36. The play set of claim ~~18~~ 35 wherein said garment includes an integrally molded detail ~~selected from the group consisting of a belt, a button, a ribbon, a bow, a cuff, a pocket, a lapel, and a collar.~~

37. The play set of claim ~~18~~ 35 wherein said garment simulates clothing ~~selected from the group consisting of a dress, trousers, a jacket, a skirt, a vest, a shirt, a hat, a coat, a suit, shorts, a cloak, a cape, a uniform, shoes, a helmet, armor, and a scarf.~~

Kindly add the following new claims:

38. (Newly Added) A play set comprising, in cooperative combination, a doll donned and fitted with a seamless garment which is adapted to be removed, dressed and refitted again to the doll in a life-like manner, the doll being articulated at a joint selected

from the group consisting of the joints of the shoulders, elbows, knees, neck and hips, the garment being molded from an elastomeric material selected from the group consisting of ethylene vinyl acetate copolymer, styrene-butadiene-styrene, styrene-isoprene-styrene, styrene-diene, styrene-isoprene-butylene block copolymers containing mineral oil, branched styrene copolymer, styrene butadiene rubber, styrene-butadiene triblock rubber, styrene-isoprene-styrene linear block polymer, styrene-butadiene radial block copolymer, butadiene-styrene copolymer rubber, the garment having a wall thickness from 1 to 3 mm, the garment material having an average modulus of elasticity of less than 1 MN/m<sup>2</sup>.

39. (Newly Added) The doll's garment of claim 38 further including at least one integrally molded detail.

40. (Newly Added) The garment of claim 39 wherein said detail is selected from the group consisting of: a belt, a button, and a collar for the garment.

41. (Newly Added) The set of claim 38, wherein said garment has a 100% modulus of elasticity between 120 and 350 KN/m<sup>2</sup>.

42. (Newly Added) The set of claim 39, wherein said garment has a 100% modulus of elasticity between 240 and 280 KN/m<sup>2</sup>.

43. (Newly Added) The set of claim 38, wherein said garment has a 300% modulus of elasticity between 440 and 490 KN/m<sup>2</sup>.

44. (Newly Added) The set of claim 38, which comprises a plurality of seamless garments each being adapted to be removed and refitted to the doll.

45. (Newly Added) The set of claim 38, wherein the garment is a dress, a pair of dungarees, a jacket, a skirt, a vest, a pair of slacks, a hat or a coat.

46. (Newly Added) The set of claim 38, wherein the material of the garment has a decorative coating of paint or varnish.

47. (Newly Added) A doll's seamless garment which is adapted to be dressed, fitted and be removed in a life-like manner for use with a doll which is articulated at a joint selected from the group consisting of the joints of the shoulders, elbows, knees, neck and hips, which garment is molded from a copolymer material selected from the group consisting of one of the following: ethylene vinyl acetate copolymer, styrene-butadiene-styrene, styrene-isoprene-styrene, styrene-diene, styrene-isoprene-butylene block copolymers containing mineral oil, branched styrene copolymer, styrene butadiene, styrene-butadiene triblock, styrene-isoprene-styrene linear block polymer, styrene-butadiene radial block copolymer, butadiene-styrene copolymer, the garment having a wall thickness from 1 to 3 mm, said garment having an average modulus of elasticity of less than  $1 \text{ MN/m}^2$ .

48. (Newly Added) The doll's garment of claim 47 further including at least one integrally molded detail.

49. (Newly Added) The garment of claim 48 wherein said detail is selected from the group consisting of: a belt, a button, and a collar for the garment.

50. (Newly Added) The doll's garment of claim 49 wherein said garment has a 100% modulus of elasticity between 120 and 350 KN/m<sup>2</sup>.

51. (Newly Added) The doll's garment of claim 50 wherein said garment has a 100% modulus of elasticity between 240 and 280 KN/m<sup>2</sup>.